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ABSTRACT

An innovative approach which will be used to evaluate one of the Experimental Schools Programs of the National Institute of Education (NIE) is described. The project, Southeast Alternatives (SEA), is designed to test the notion that comprehensive educational change is superior to piecemeal change; it consists of five educational programs-a contemporary school, a continuous progress school, a free school, an open school, and a comprehensive high school. Some general descriptive material on the overall project is provided, followed by more specific and detailed discussions of the two major components of the evaluation--the Anthropological Study, a case studies approach designed to describe the evolution of SEA as comprehensively as possible, and the Impact Study, devised to assess the effect of SEA upon the schools, the students and their parents, and the community. For each of the components discussions are presented dealing with the assessment strategy, the data to be collected, methodological considerations, dependability of the data, and the analyses to be performed. Some major limitations of the evaluative strategies are also discussed. (PB)

THE APPLICATION OF ANTHROPOLOGICAL TECHNIQUES TO EXPERIMENTAL SCHOOLS EVALUATION[1]

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INTRODUCTION

The evaluation of Southeast Alternatives (SEA) is but one small piece of a complex evaluation effort conducted by the Experimental Schools Program (ESP) of the National Institute of Education (NIE). Early in its first year of operation (1971), ESP funded three experimental schools projects designed to test the notion that comprehensive change is superior to piecemeal change in education. These projects were located in Franklin Pierce, Washington; Berkeley, California and Minneapolis, Minnesota. The project in Minneapolis is the subject of this paper.

Soon after the project award, a national competition was held to select an on-site but external evaluation team. ARIES Corporation was selected to conduct the evaluation in Minneapolis and began planning in July, 1971.

This paper presents a description of Southeast Alternatives (SEA) and the design developed by ARIES to evaluate and document SEA over its five-year life cycle. Of specific interest may be the anthropological techniques employed in the documentation tasks.

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A GENERAL INTRODUCTION TO SOUTHEAST ALTERNATIVES*

The first announcements about ESP found Minneapolis, and especially Southeast Minneapolis, a community of varying value systems incompatible with a single approach to education. This, coupled with the educational philosophy** of School Superintendent, John B. Daivs, provided a school system both ready for and capable of designing a radically different approach to schooling. Hence, the beginning of SEA.

Southeast Alternatives is a fitting designation for the Experimental Schools Project of Minneapolis. Students, parents and teachers have the opportunity to select from alternative educational programs distinctly different in instructional pattern and diversity of curriculum material. A quote from the final plan adopted by the Office of Education reads,

> "Choice-making by students, teachers and parents will become the basic way of life for all members of the Southeast Alternatives program . . ."

This is the primary goal of Southeast Alternatives.

Five major programs, three elementary, one secondary and one K-12, are offered as options. Each program is formulating and implementing its own design for schooling. The five programs are: The Contemporary School, The Continuous Progress School, The Open School, the Free School (levels K through 12), and a Comprehensive (7-12) High School.

Another goal of Southeast Alternatives is to provide the opportunity for student, teacher and community involvement in the shaping of the schools, their objectives and their curricula.

From the inception of SEA, interested and involved parents have been hired on a part-time basis to disseminate information and encourage community input regarding the design of the project and project components. Many residents have participated in discussions held throughout the community. In the Free School, students and parents exercised their right of involvement by selecting the faculty.

* It should be noted that SEA is presently redesigning its program in preparation for the three-year period, 1973-76. Much is being revised but the general themes will probably remain intact.

**See "The Superintendent of the Minneapolis Public Schools Speaks in Opposition to the Voucher Plan," November 24, 1970. In this document Dr. Davis endorses options for parents and students within the public school system.

The SEA director, who serves as the chief administrator for the project schools, reports to the assistant and associate superintendents of schools and is a member of the Minneapolis Public Schools Executive Cabinet. The SEA director has within the administrative office several supportive components. They are:

- Research and Evaluation. This component is responsible for providing formative and summative evaluation valuable to the progress of the project and its components.

- Staff Development. This component has as its major task the identification of training needs and the development of the appropriate training activities to reduce these needs and, therefore, strengthen the staff. The staff development program has evolved into a teacher center.

- Student Support Services. This component is responsible for coordinating the services of the counselors, social workers, school nurses and school psychologists; convening and sharing interviews for hiring the above, coordinating a "people" record system, planning a project staff budget for student support services and coordinating the educational programming of Marshall-University High School students.

- Public Information. This component is responsible for: publishing a community-wide newspaper and other publications, developing informational presentations, establishing visitation and observation programs for the visitors of SEA and publishing and interpreting relevant research data concerning the progress of SEA.

- Budget Control. Consisting of a financial advisor, this component is responsible for establishing and maintaining realistic budgets.

- Community Liaison. The Community Liaisons are Southeast parents working within the various components. Their responsibility is to provide information and opinions from the community to SEA personnel regarding the operations of the program. They assist in developing wider citizen participation, identifying community resources establishment of teacher cadre, development of SEA programs, staff development, and they support the University in the continuation of its Southeast programs. They also serve as a communication channel between SEA, parents and community.

- Community Education. This component is responsible for recruiting and supervising the community school coordinators for the respective SEA schools. They plan with the coordinators the community school programs for children and adults (extra-curricular), and coordinate these programs within SEA. They are also responsible for extended day or late afternoon classes which are provided at most Southeast schools. At Marshall-University, the evening classes serve over 400 people.

Organization and staffing for the individual instructional components have also undergone some changes. Project coordinators have assisted the principals of the Continuous Progress and Open Schools. Cadre staff were appointed to serve on a rotating basis providing a variety of services to the component schools and staff. The elementary teacher cadre is comprised of specialists in art, mathematics, music, science, industrial arts, environmental education, language arts and creative dramatics. Secondary cadre teachers work within departments to develop educational models and alternatives to be tested in the program.

Another addition to the elementary staffs have been the appointment of guidance counselors to the faculties of the Contemporary, Continuous Progress and Open Schools. Elementary counselors work, in part, with students to aid them in improving self esteem and relations with others.

The following is a brief description of each alternative:

Contemporary School - While incorporating a variety of recent educational innovations the emphasis in the Contemporary School is on teacher directed and sequenced instruction organized by classes by grade level. A science center, a well equipped math center with a portable computer terminal, an integrated art, music, and drama activity room, a media center, a pottery and ceramics workshop, a photographic darkroom, and an industrial arts program combine to make up the innovative programs of the Contemporary School.

The University of Minnesota and the Contemporary School have combined resources for their mutual benefit. The departments of Elementary Education, Secondary Education, Child Development, Educational Psychology, Theater-Arts, and the School of Dentistry have all been active in the Contemporary School.

Continuous Progress School - The basic premise of this alternative's program is that "children learn best by working at their own pace." Accordingly, children progress through the basic skill curriculum without regard to grade levels or other artificial barriers. Such a process is designed to benefit both the slow learners and the academically talented children, each working at his own rate receiving assistance when needed.

During the morning hours at the Continuous Progress School, the sessions are concerned with the basic skills, i.e., language arts, math, and social studies instruction. In the afternoon sessions, children choose from among art, music, science, social studies, photography, cooking, sewing, or other programs.

Open School - That children, when given the opportunity to plan their own activities within a rich and carefully planned environment, will learn not only basic skills but also the ability to take initiative for their own education is the major premise of the Open School. To accomplish this task, the Open School is designed to encourage the exploration of educational subjects and materials under the guidance of teachers and parents.

The Open School has two basic organizational modes - Model I and Model II. Model I actually is an open classroom situation, where children with a semi self-contained classroom may study basic skills and the various arts. For the Model I program, there are two teachers, each with a class of thirty students. They are responsible for the teaching of all academic subjects as well as the other learning experiences which are considered to be important. Children may leave the classroom to take industrial arts, gym and to use the multi-media facilities. Within the classroom there are various learning areas; a language arts area, math area, science area, etc.

The Model II program which has undergone three modifications, was originally established to serve approximately 250 students. In the original Model II, each classroom was a specialized learning center. Model II students (K-6) could visit any of these centers "at will" and could work there on a project until completion. For a richer educational experience, the children were encouraged to move among all centers often and participate accordingly. The learning centers then established were:

- Flair - This was the Reading Skills, Language Arts area consisting of three classrooms and a team of teachers available to help those students in the fundamental skills of language arts.

- Systems Center - This Math area allowed students to study various ways that math is used. The room was further subdivided into areas for multiplication, addition, subtraction, and division; a time learning center; and a mathematical game area.

- Social Studies Center - This area provided the children with the opportunity to confront the problems of their environment and their society.

- Yellow Submarine - This was an art area. Skills obtained here included painting, sketching, weaving, sewing, ceramics, etc.

- Inquiry Center (I.Q. Lab) - This IQ Lab encouraged the student to ask and answer questions about the scientific world. Here, students could pursue studies in chemistry, electricity, biology (live animals available), and astronomy.

- Hammer Hall - This industrial arts area is the newest area for this building. Here, boys and girls can test their skills in the construction of wood and metal projects.

- Music Center - Under the supervision of its own music instructor, the students at Marcy may take singing, dancing, musical instruments, and/or study music appreciation.

In December, 1971, Model II was revised to consist of four classroom units of "families" of 60 students each. These units contained elements of the former learning centers, which with the exception of industrial arts and music, were dismantled.

The Open School program is enhanced by a variety of support groups. Some two dozen parents and volunteers contribute services weekly to various school programs. Project 60, a University Department of Education project, provides juniors for support services within the component. A Marcy Advisory Council was established to serve in an advisory role to the principal. It has elected membership including parents, teachers, students, para-professionals and the other community members.

At the beginning of the 1972-73 school year, the Open School again revised its structure, in part based on the finding of an in-house research unit. The revised model is briefly discussed in the following outline.

- Age grouping: The K-6 "family" of 1971-72 has been modified into two more distinct age groupings, roughly 5-8 years (primary) and 9-12 years (intermediate). Pairs of such "sub families" meet in rooms across a common hall from one another with a teacher in each room. These age sub-groupings are thought by the staff to allow staff to focus on interests and skills which correspond to the particular developmental stages of the children. The age division is not rigid, however, and occasions for a wider age mix are still provided. Students may spend time in both rooms, and this occurs especially among the 8 and 9 year olds. Students are not "graduated" from the primary to the intermediate room, but rather begin to spend more and more time with the atmosphere, activities, students, and teacher in the new surroundings.

- Time Parameters: The school day at Marcy School has become somewhat more structured over the two years of operation. The goals of having teachers forfeit (as much as possible) their authoritarian roles and having students become self-directive in their school activities are still important at Marcy. Indeed, it is thought by the staff that, rather than being obstructive, certain structural time parameters are valuably supportive to students as they attempt the difficult business of self-directed and profitable activity.

- Free School - Located in the United Campus Ministries Building of the University of Minnesota, this K-12 program offers the student "freedom" to pursue and study whatever is beneficial to his perception of himself, others and the environment. A first year student enrollment of 70 has expanded to 184 during the second year. Students are offered a variety of educational opportunities including formal and informal classes, intern programs and field trips. The students may or may not participate in any of these programs -- the choice is theirs. Selection and structuring of the classes and programs is totally dependent upon the desire of the students, their staff and their parents. Such classes as reading and writing (for primary children)

literature, various math courses, current events, psychology, youth and law, creative writing, cookery, photography, art, music, guitar, and five language classes are offered. In addition, a program of internships has been developed so that students can work in the community in various jobs which may be related to the vocation they intend to pursue. Further study is available through field trips in which students can learn about nature and themselves.

The staff was selected by the parents and students. By dividing the appropriated salaries, the original allocated number of three certified staff members was expanded to six. With additional funding from SEA and other agencies (e.g. Urban Corps, Para-professionals), the staff including teachers, aides and volunteers has presently expanded to 14, rendering a student staff ratio of 5 students to 1 staff member during the first year.

Although there is no principal (in name) of the Free School, a member of the staff was selected by his peers to serve as head teacher and is, therefore, responsible for the administration of the alternative.

For the 1972-73 school year, an expansion occurred which can best be conveyed by discussing the comparative differences between 1972-73 and the previous year. A comparative overview of Free School is made in the following dimensions:

- Governance within the Free School Community - The Free School Governing Board is further developed conceptually and also appears to operate more efficiently. A constitution and by-laws have been established under the guidance of this year's Free School director, Tony Morley. The concept of "community consensus" is still valued, but processes are far less apt to breakdown. Previously, the notion that everyone must be content with decisions of the Governing Board coupled with a general lack of mutually accepted procedures yielded few decisions. The system was dysfunctional as the failure of the group to generate decisions made it incumbent on individuals (i.e., head teacher) to do so. This was, in some ways, the antithesis of what people seemed to have in mind -- real community involvement in decision-making. The more functional Governing Board of this year may be attributed to any or all of the following:

    - The Governing Board's accepting and learning from last year's experience.

    - A two-week communications-process-needs assessment "in-service" held before this school year began.

    - The persistence of some in reminding others that some limits are functional, tasks must be accomplished, etc.

The Comprehensive High School (7-12) - This junior and senior high school serves approximately 1150 students (levels 7-12).

Although still in the process of developing and establishing its role as an SEA component, M-U High has already initiated some new programs.

- As it is of paramount importance that M-U High be prepared to accommodate the educational demands of the incoming Southeast Alternative students, the seventh and eighth grade program is undergoing modifications that will allow for a smooth transition for all incoming students.

- An Off-Campus Career Exploration Program (O.C.L.E.) permits students to work in full-time non school-based activities and receive credit.

- Project "AWARE", A Wilderness And Research Experience, is a one quarter alternative using an interdisciplinary-environmentally oriented program. The areas of study cover navigation, field math, anthropology, geography, psychology, zoology, botany, astronomy and ecology.

- A committee composed of M-U staff, students and parents jointly prepared a proposal entitled "Guide Groups" as an alternative to home rooms which has been implemented to meet the need for more personal relationships between student, home and school.

- A program entitled Adjusted Learning Environment (A.L.E.) was initiated for the '72-'73 school year after the completion of a summer pilot program. The program is designed for 7th graders needing close, individualized attention in further developing their abilities in basic academic and social skills.

- In an attempt to provide students with an open learning environment, a program entitled Environmental Quarter is conducted with 24 seventh graders. The program consists of a three-hour session each morning which attempts to integrate English, social studies, math and science.

With this abbreviated back drop, the evaluation design is developed. Many novel programs and numerous significant themes have gone unmentioned or have been glossed over, but a basic comprehension of the SEA program should be possible from the previous descriptions.

THE GENERAL DESIGN FOR EVALUATION AND DOCUMENTATION

The early designers of experimental school evaluation and documentation efforts were surely aware of the special circumstances researchers would face. Traditional experimental design is precluded by the very nature of the project. There is only one SEA and only one Southeast community. There are, however, a number of internal and external comparison groups useful in developing a clear description and explanation of SEA.

The best way to conceptualize the evaluation and documentation of SEA is as a case study. This case study searches for themes of interest to federal decision-makers and practicing educators. A third group expected to benefit indirectly are those who are researching the process of schooling in field settings.

At another level (cross site evaluation) a great many of these case studies (ESP projects) will be accumulated in order to draw conclusions about the effects of comprehensive programming. Such an effort is only of interest to MET in that MET will cooperate, at times, in data collection for purposes of such macro-studies. The following plan, however, speaks only to the study of Southeast Alternatives, an experimental schools project in Minneapolis, Minnesota.

Viewing SEA as a rich setting to which one must bring a case study methodology, the questions become how best to deploy personnel, what data to collect and how to behave in the setting. The setting itself really dictates how to behave. The SEA experiment is to be respected as it is constituted by school personnel and protected from the influence of external evaluators. Hence non-interventionistic behavior is deemed imperative. Learning how to behave in the experimental setting has been no simple matter, however, for hundreds of hours are spent securing access to data and maintaining relationships.

Personnel have been deployed in three basic ways. One contingent has conducted process observation of schools for purposes of documenting the evolution of SEA. A second group has sought to estimate the impact of SEA on students, families, and structure through the use of traditional psychometric strategies. Finally, personnel are assigned to the administration of the evaluation including management of support services to the first two areas.

During the first two years of the evaluation project, data has been collected through field observation, testing, interview, questionnaire, survey, critical incidents techniques, self-report and logical analysis. The way that these general techniques are used will be covered in detail as the plans and designs discussed in this paper.

Specific Design Plan, January 1, 1974 - December 31, 1976

The evaluation and documentation of SEA for the three year period, January 1, 1974 to December 31, 1976, will be structured around two separate but interacting components. These components are called The Anthropological Study and the Impact Study. These two studies will be described in detail guided by the format of an overview, a description of the strategy employed, an outline of data to be collected, a statement of methods of data collection and a presentation of analyses to be performed.

Questions of Interest

Before getting into the two studies it might be useful to discuss briefly the possible usefulness of this massive evaluation and documentation

effort. Below is a brief listing of potential benefits which accrue to NIE and the audiences it represents as a function of having funded this effort.

- The issue of the amount of time a child should spend in school has recently been raised in discussions concerning the cost of schooling. Within the natural setting of SEA, students spend different amounts of time in formal schooling. With the additional possibility of a four day school week, data will be available on the relationship of time in school to the process of schooling and school outcomes.

- The age at which a child begins formal education has been the subject of cross national studies (5) which tend to call into question much of the folklore on early beginnings. While most of the SEA children come under the school's care as of age 5, the advent of formal instruction differs across schools as does the intensity of instruction and level of expectation. Although we are talking about small numbers of students, we can follow these students for many years and gather information on all aspects of their life to address the issue under scrutiny. In addition considerable theoretical work (6) is underway which should provide a welcome backdrop for analysis.

- It has been assumed for some time (and state guidelines are a result) that schools should be organized in classes and that classes should spend their time in certain prescribed ways; so many minutes for English, so many minutes for math etc. The schools of SEA have four different organizational patterns at the elementary level and at least two at the secondary level. There is much to be learned about the relationship of school organization and curriculum to the outcomes of schooling.

- Affective learning has already become a "pop" expression, an unfortunate circumstance. Of all the things MET has studied or plans to study, the area of affect is the most interesting. Much should be learned from the multiple approach of measuring student affective behavior over time, deriving teacher intents in affective areas, identifying prevalent belief systems of families and observing the affective dimension of school life (e.g. order maintenance, teacher-student interactions, etc.).

- Ranking near affective learning and apple pie is community involvement. In SEA five distinct forms of community involvement in the governance of schooling are evolving. In addition, the involvement of community at the program level and the tri-faceted community-school district-university relationship provides rich data for the anthropological study.

- How much choice can be offered within the public school system, to whom can it be offered and what are the fiscal and psychological costs? SEA provides a setting par excellence for studying and answering this question.

• Can formative evaluation make a lasting difference? The formative evaluation team of SEA has cast the above question as one of critical importance. The study of their formative evaluation strategy and the answer to the question is of tremendous significance to school districts across the country.

••• And then there's the big question to be addressed at each site by each level of evaluation. What are the advantages and disadvantages of comprehensive programming or comprehensive change strategies when compared to piecemeal change strategies?

THE ANTHROPOLOGICAL STUDY

The impetus for a documentation study grew out of a general recognition of the sad history of educational project reporting. Too many projects have gone by the boards without documentation sufficient to allow others to judge for themselves what took place, the success of the project and its potential usefulness in other locations. The early conceptualization of the MET documentation study could be described as psycho-journalistic. Through many iterations of self-assessment, the documentation study has come to be seen more as an anthropological field study than psycho-journalistic reporting and the following plans and designs reflect the change in conceptualization.

A. A General Overview of the Anthropological Study

The purpose of the anthropological study is to prepare a description of the evolution of Southeast Alternatives and its component parts in as comprehensive a fashion as is possible. Such a complete description will have three general uses. First, it will serve to document (perceive, record, analyze and explain) what happens in Southeast Minneapolis such that those who wish to replicate such a program will have a detailed process record to work from. Secondly, the process documentation will serve to provide explanations for differences picked up in the impact study. Thirdly, the ethnographies of specific schools or subcultures studied will advance the state of the art of applying anthropological techniques to the study of education.

In documenting the evolution of alternatives in SEA, MET will also be concerned with recapturing the history (to the extent possible) preceding the initial design for the SEA project. Consistent with the idea of an evolutionary process, MET will synthesize its information, findings, observations, and impressions at specific points in time in reports which can later be analyzed and integrated into documentation of the life cycle of the project.

The demands of a comprenensive documentation task are great. It is not possible for MET to record everything that happens, yet at the same time, the MET plan for documentation has to be broad enough in scope to record significant events or characteristics of SEA respecting the comprehensive nature of the experiment.

B. The Anthropological Strategy

During the first year of the project (1971-72), in contrast to methods generally employed by educational researchers, field workers entered the SEA system with few, if any, predesignated hypotheses. Indeed, the trained field worker generally prefers to begin with no specific hypotheses, for he expects hypotheses to emerge from an initial period of observing and interviewing. He trusts that his trained eyes and ears will help him discover what is relevant to the system which he is studying. He tends to be wary of formulations drawn from outside the immediate field (from studies of other sites, or from theoretical literature).

Over the course of the first two years, different observers began with different frameworks and came out with differing sets of empirical observations. Given the same organizing framework, however, various observers of one field situation -- or readers of the field notes -- should come out with approximately the same conclusions. (4)

One general characteristic of the first two years' field work was its temporal, developing character. This initial phase of SEA observation yielded field notes that are somewhat general and scattered, because specific foci of observational attention and specific hypotheses had not yet crystallized and the observers were caught in a training gap due to the changing conceptualization of the task. Significant classes of persons and events have emerged from early formulations, however, and certain general issues have come into focus. Formulations must not, henceforth, be left only to the informal test of daily observation but must be subjected to more deliberate, controlled inquiry or pinpointing.

As A. L. Strauss (7) has pointed out, the phase of "pinpointing -- involves a hard look at one's understanding of the reality under investigation -- understanding that is most critical to the emerging set of propositions." Such pinpointing of propositions will be especially marked near the end of the data gathering in the anthropological model to be employed, but has occurred in smaller measure for particular propositions along the course of the field observation to date. Hence an early anthropological strategy is pinpointing.

A second important feature of the field model being developed is the nature of the propositions being sought. The outcome of the SEA observation will not be a few carefully tested hypotheses but rather a set of interrelated propositions. Strauss argues that "field work is well advanced when many apparently scattered observations are related to two or more propositional sets and these sets in turn are demonstrably and logically related to one another." The evidence gathered to support this model will be of several kinds: for example, interviews with teachers and students, observations concerning critical events, recordings of chronologically unfolding events which may develop over many weeks, and events precipitated in order to see what will happen in the light of what is already suspected or hypothesized.

Above all, the observer is an active instrument in the gathering of data. He does not sit passively in one spot, watching and listening, but uses a variety of tactics and instrumentation. Since evenings seem to be filled with endless meetings, the SEA process observer cannot settle for daylight hours only. He must get to the different places within the system (e.g., school, school classrooms). He may at times follow key persons through the course of their routines or conduct structured interviews for such behavior. In fact, it is expected that participant observation, unobtrusive measures, interviews and a whole host of techniques will be used to elicit a great quantity of rich naturalistic data. The question becomes one of focus, "What data will be collected and how will it be analyzed?"

C. Data to be Collected

The data to be collected in the anthropological study will, for the most part, be field notes and interviews recorded in chronological sequence. The first category* shakedown has already occurred and the resulting categories now serve as an internalized guide for field notes with a corresponding set of codes. The categories can be viewed as data bins to be filled. MET anthropologists will also be fully acquainted with the type of unobtrusive data that is often available in a field setting.

D. Method of Data Collection

The major field method employed is based on what Strauss (7) describes as "theoretical sampling". Theoretical sampling is carried out to discover categories and their properties and to suggest interrelationships forming a holistic theory. Categories can be judged, according to Strauss, by their width and diversity.

MET will pattern its work in the theoretical sampling area after the model established by Barney Glaser and Anselm Strauss (3) in a field study on dying. In this study, to oversimplify, hospital locations were allotted observation time based on their theoretical significance. A setting was said to have theoretical significance, in the estimation of this writer, if it provided a conceptual comparison group.

Participant observation remains a major method of data collection. "Participant observation is a commitment to adopt a perspective of those studied by sharing in their day-to-day experiences." (2) In participant observation the observer gathers data by participating in the daily activities of the group he studies. Participant observation will be used as an on site data collection strategy to develop

* These categories include a listing of the major dimensions of the SEA project followed by a series of questions designed to point out the relevant aspects of the dimension. Prevalent belief systems, choice-making, governance and planning are four general category dimensions.

a data base from which strategic ethnographies can be developed. Once field workers are adequately grounded, however, other sites within Minneapolis and alternative schools outside of Minneapolis will be observed from the standpoint of developing notions about the unique and the common characteristics of SEA. That is, MET predicts theoretically significant samples will be outside of SEA.

Participant observers will be assigned to one or more of five settings. These include the following:

- The K-12 free school and the K-6 open school.
- The K-6 continuous progress school and the K-6 contemporary school.
- The 7-12 high school.
- The SEA support staff center and the Southeast Minneapolis community.
- Locations outside of SEA including other classrooms in Minneapolis and locations selected for their theoretical value outside of SEA (e.g. Venture School, Palo Alto).

Each of these assignments is considered a component in later staffing charts.

Event analysis and network analysis are also methods of data collection to be used in the MET Anthropological Study. These techniques will provide a history of events and a network of individuals involved in events. In addition the Rachomon technique will be employed in describing an event from several vantage points. Life histories also provide an indepth perspective of importance to any detailed field study and will be a method utilized often.

E. Assuring the Dependability of Information

Observational methods are especially vulnerable to the fallibilities of human perceivers. The consequences of this fact for process observation methodology can be sizeable. The points to be considered in "calibrating" field observers must be conveyed to them, typically during training. The conduct of training can be crucial in the determination of the impact that observational and other errors will have in the analysis. It is during training that events become more familiar and definitions of categories will become more precise. As the observer gains more experience with a given system, former associations among dimensions may have less effect, with the result that evaluative responses give way to studied responses.

It can be expected that when observers first start to learn the definitions of categories and the rationale for the system, their

reaction will typically be one of concern with the apparent complexity of the system. This is one of the reasons it is especially important to provide information about how the observational categories were built, so that the observer can be instrumental in deriving other sets of categories and definitions. Written protocols have been valuable because they permit trainees to ponder interpretations without the pressures of immediate decisions.

Two additional subtle issues pervade training. One concerns the frustrations that occur when an act (behavior) is missed or placed in the wrong category. A good observer must learn tolerance for these errors. One means to promote such tolerance is to acquire an ability to inhibit all but the present context of acts and to avoid jamming incoming stimuli with internal reflections.

A second, and potentially more important issue, concerns criteria for the correctness of categorization. Many observers see categorization as largely a common sense activity, and they may be reluctant to admit that they make mistakes and that someone else has more "common sense". Persons in training can be expected to strongly defend their own interpretations. The best means to head off these confrontations is to maintain permissive training orientations and use external criteria of "correctness".

Methods can affect some observer errors; training can affect others. Judicious choices of method and training techniques can help the investigator retain the advantage of the human instrument without all the attendant errors. But such an outcome is difficult to come by since the observer's task is often not very different from that of a person in everyday life.

F. Analyses To Be Peformed

As noted previously, Appendix A contains the grounded categories developed to date for the Anthropological Study. These are the "bins" into which data is poured and from which come brief descriptive summaries. The interrelationship between category descriptions and general grounded theories becomes a source of data for explanations.

It should be noted that in the conduct of participant observation a number of analytic techniques are used. The observer constantly updates and redesigns his effort as he uncovers new data. This continuing analysis leaves field notes undigested for only short periods of time and should result in tentative conclusions at the end of the field work period.

The end of field work is not the beginning of analysis but only a continuation. At this point, however, methods of summary must be chosen. Conclusions are often supported by anecdotes, illustrations and abbreviated life history material. Verifications are made when an independent observer reviews the field notes to assess the relationship of data to conclusions.

THE IMPACT STUDY

A. Impact-General Overview

The purpose of the Impact Study is to assess the effect of SEA on the schools, the students and their families, and the community. As a dynamic experiment in alternative schooling, SEA undoubtedly affects many of those participating in the project. The task of the Impact Study is to learn which of the participants in SEA are affected, how they are affected, and if the effects are significant. Data from the Impact Study should form an integral part of the information necessary to judge in some ways if alternative schools are worth the effort. In studying this experimental approach to education, the greatest emphasis will be placed on the impact of SEA on students. In assaying student impact, student academic performance, attitudes towards school, involvement and use of choice will be reviewed. It will be observed whether the opportunities for choice are actually used and what effect the alternatives have on learning and the happiness of the pupils. The attitudes of families toward SEA will be carefully studied. Current evidence suggests that to be effective a school system must reflect and respond to the attitudes and opinions of the immediate community. With this hypothesis in mind, the views of the community will be continually monitored. Throughout the various Impact Studies, special attention will be directed toward choice and how well it operates in SEA, because the opportunity for choice has been heralded as the most important and distinctive feature of SEA. Within the schools of Southeast, the opinions of the staff will be surveyed, because no approach to education can hope to be successful without staff approval and support. Possible staffing benefits or problems under an alternative system will also be noted. Data on impact will be gathered for the duration of SEA, and the data will be standardized and organized to the extent that it can speak reliably on changes that may take place. At the same time, there will be no hesitation to collect, in a systematic way, qualitative data that give important insights into the operation of Southeast Alternatives.

B. Impact Strategy

The strategy for collecting Impact data will be eclectic. A number of different methods are to be used to obtain student impact data. Objectives based tests have been constructed to gather information on the math and reading performance of elementary students -- the objectives being those common to all SEA schools. Some normative testing results will be available for elementary students from the Testing Program of the Minneapolis Public Schools. Unfortunately, MET cannot be certain that Minneapolis will continue to require tests of elementary students for the duration of SEA. Affective information from elementary students will be obtained by the MET affective survey (part of the MET testing program) and by "mini-interviews". The Minneapolis Testing Program does not require secondary students to take normative tests in various subject matter areas on a consistent schedule and MET has no plans for testing basic skills on the secondary level. Affective data on secondary students

is available from the Minneapolis Public Schools in the form of data from two opinion questionnaires (SOQ and QUESTA); "mini-interviews" have also been given to the secondary students.

Case studies represent a method of collecting data on both students and their families. The case studies involve extensive interviews of the students and families, and they occur at the beginning and towards the end of each school year. Contact with the case study families throughout the year is encouraged, and presently such contact is facilitated by special telephone recording equipment referred to as the MET "hot line".

Contingency case studies are used as events or topics of interest arise during the year. The events or topics are selected for their potential in illuminating and illustrating the workings of SEA. The participants in the events are interviewed in detail.

Surveys are used as a way of getting at community attitudes on dimensions and topics of interest to SEA. A staff survey is used to monitor current opinions and feelings of the SEA staff. Other sources of data include special studies by SEA's Level I evaluation team. An important example of such special studies is the Level I Mobility Study which reviewed the patterns of choice in SEA.

C. Data To Be Collected

Getting down to specifics, a large quantity of data has been collected and will be collected over the five year life of SEA. The following is a list of the major chunks of data which have been collected, or will be collected.

- MET testing data. Data from the fall '72 MET testing program is now available. Raw data from the spring '73 MET testing program will be available on May 14, 1973. In future years MET testing will take place each spring. The tests include primary and intermediate reading tests, primary and intermediate mathematics tests, and primary and intermediate affective surveys. The math and reading tests are based on common objectives of the SEA schools.

- Minneapolis Testing Program. Data from the Minneapolis Testing Program will be collected to provide normative test information and background data. On the elementary level, different versions and supplements of the Gates-MacGinitie Reading Tests and the Iowa Tests of Basic Skills are available. The Lorge-Thorndike Intelligence Test is also available. It is not clear at this time what Minneapolis test results will be obtained, because the Minneapolis Testing Program is changing and we cannot tell which tests will continue for the life of SEA. On the secondary level, the results of two opinion questionnaires -- Student Opinion Questionnaire (SOQ) and Questionnaire for Students, Teachers and Administration (QUESTA) -- will be obtained.

- Case Studies. Interviews with the families selected for case studies have been conducted twice. The third interview, the spring '73 Case Study, is now in progress. Case study interviews will be carried out in the fall and spring of each remaining year of SEA. The interviewing is done by two people, both of whom have social work experience.

- Contingency case studies will be done whenever the situation or potential information merits the effort. One contingency study of M.U. students with severe reading difficulties has already been done. Contingency case studies of students transferring, during the school year, from one Southeast alternative to another, is slated for May, 1973.

- "Mini-interviews" of students are now being conducted in the elementary schools and the high school. The first experimental "mini-interview" deals with choice in the schools; the interview was developed by MET. Continuation or expansion of the mini-interviews will depend on a complete analysis.

- Community Surveys. Data is now available from two community surveys; partly analyzed data from the third community survey should be available by the middle of May, 1973. MET intends to continue yearly community surveys, hopefully with the continued cooperation of SEA's Level I. In an attempt to get more complete representation of the SEA community than this year's mail-out survey permits, a door-to-door survey is being considered for next year. The next survey will be conducted in the spring of 1974.

D. Methods of Data Collection

Some of the methods of collecting data are already apparent from the foregoing discussion. Further specifics will be provided where it is felt they are needed.

- MET testing data. The match and reading tests designed by MET are administered by the teachers in the SEA schools. The tests are dropped off and picked up on a day-to-day basis. The MET Affective Survey is administered by MET personnel. This spring, starting with the week of April 23, one week, with definite dates for each school, has been assigned for the reading tests, the math tests, and the affective tests. The tests will be scored and analyzed immediately and a similar procedure will be used in the spring of 1974 and in the following years.

- Minneapolis Testing Program. A preliminary analysis of this school year's SOQ data has already been obtained, and all available data from both the SOQ and QUESTA will be obtained from the Educational Services Department of the Minneapolis Public Schools when they are ready. As soon as a reasonable decision can be made about which data will be useful, elementary school test data will be requested from the Educational Services Department of the Minneapolis Public Schools. The data from the elementary schools will be requested this spring.

• Family Case Studies. Information from the family case studies is collected on a day-to-day basis. Interview dates are set by the case study workers and confirmed by the secretaries. This routine, coupled with persistance has yielded close to complete returns. When a case study family proves to be impossible to contact, a careful decision is made about retaining them in the case study sample; fortunately, this has happened only once.

• Contingency case studies are not whimsical, but they are done by different members of the MET team as potentially informative events or situations are identified.

• Data for the "mini-interviews" on choice is now being collected by the process observers. This data should be in by the end of the first week in May.

• Community surveys. Data from the first two community surveys is available at ARIES. The Fall '71 Survey -- a joint Level I and Level II effort -- has already been analyzed. The Summer Survey, conducted by the University of Minnesota, for Level I resulted in a report which gives an extensive analysis. The '73 Parent Survey was another Level I and Level II effort. Because Level II was largely responsible for developing the survey, it was decided that the data collection and preliminary analysis would be the responsibility of Level I. As of Monday, April 23, 617 surveys had been returned, and 3 Level I people have been coding the open-ended questions and keypunching the closed questions. The cutoff date for accepting surveys is April 27 and the keypunching and preliminary analysis is to be completed by May 15 at which time the data, including keypunch cards will be available to MET for further analysis.

E. Dependability of Data

The dependability of the data collected is an increasing concern of MET's. Every effort is being made to assess, and where necessary, to increase the reliability of the information obtained by MET.

• MET testing data. During the late spring of '73 and early summer checks of the reliability of the MET primary and intermediate reading and math tests are to be run using coefficient alpha as the measure of reliability. Changes necessary to increase the reliability of the MET tests will be made during the summer and fall of 1973.

• Minneapolis Testing Program. The Minneapolis Testing Program consists largely of familiar normative tests which are encrusted with reliability data.

• Case studies. The reliability of the case study data will always be a concern. However, the insights and the richness which the case studies are capable of providing, make the reliability risks worth taking. Within the next month, Dr. Buelah Compton from the University of Minnesota will be reviewing the entire case study procedure and verifying the conclusions drawn from case study data. A similar

verification procedure will follow each round of case study interviews. Consistency in instruments and procedure has been attempted, but changes in our sample of 60 families is beyond our control. With the help of school social workers and other people familiar with Southeast Minneapolis families, families representative of the Southeast community have replenished our sample when necessary. It appears that a substantial portion of our case study sample will be available for the life of SEA.

- Community surveys. The questions and format of the 1973 Parent Survey have been reviewed by an expert from the University of Minnesota and found to be a substantial improvement over the 1971 survey. Many of the current survey questions will be retained in their present form for future surveys. In spite of efforts to reach all strata of Southeast Minneapolis, the 1973 survey returns are biased as are all mail-in surveys. We are considering a sample of Southeast families and door-to-door interviewing to avoid this problem next year.

F. Analysis*

During the summer of '73 a major part of the work of the Impact Team will be further analysis of available data. MET's effort will be to follow changes occurring in student and community behavior during the course of SEA.

- MET testing data. The fall '72 testing data has been reduced by a preliminary analysis. For math and reading tests, performance on all items by school and age are available. A preliminary analysis of item difficulty and tests of internal consistency will be carried out this summer. In addition to coefficient alpha an attempt will be made to test the homogeneity of items within objectives. On the reading tests 2 SOBE-R items were often used for each objective -- these items having been selected from 5 SOBE-R items keyed to the same objective. The correlations of the items testing the same objective will be examined, and the correlations for similar math items will also be obtained. Similar analysis will be made for the spring '73 results. The performance of various subgroups within and between school may be compared as they are suggested by the data. A preliminary analysis of the affective results has broken the data down by school for questions dealing with general categories of our affective taxonomy. These results have been further analyzed into responses by primary and intermediate students. Similar analyses of the spring test data will be made. A potential source of information on trends in SEA is contained in records of the SEA school's stated objectives in math, reading, and the affective domain. Careful note will be made of any changes in our list of school objectives.

* The section, "Questions of Interest" provides the rationale for analysis. That is, it is the purpose of analysis to shed light on those questions.

- Minneapolis Testing Program. Only the SOQ and QUESTA data will be definitely used. Data from these opinion questionnaires will be used in conjunction with information obtained by our process observers, case studies and community survey to comment on choice, involvement and attitude towards school. Elementary normative tests will be used to the extent they can give background information on the way Southeast schools were before SEA, and to the extent they can tell us about the current distribution of intelligence across SEA schools. Minneapolis test information will also be used when it provides further information on our own testing effort.

- Case studies. Case studies will be analyzed particularly for the information they give about choice, student and parent involvement, and satisfaction with schooling. It is expected that the case studies will add a great deal of richness to the more statistical data from other sources.

- Community surveys. The community surveys will be viewed for the information they can yield on general attitudes towards education, specific attitudes towards SEA and its problems, specific feeling about individual schools and their performance, as well as information on choice and involvement.

A general strategy used throughout Impact analyses will be that of approaching a question with different instruments and modes of attack. Choice, for example, will be investigated in a number of different ways. Information on choice comes from the Case Studies, the Community Surveys, Level I Mobility Study, SOQ and QUESTA, the mini-interviews and observations of the process observers. If there is substantial agreement among several levels of observation on a topic such as choice, belief in the findings will increase accordingly. For example, the school children state certain opinions in the mini-interviews, which are reinforced by the observations of the process observer, and written opinions on SOQ, QUESTA or MET's affective tests, as well as case study information, a good deal of confidence can be placed in the findings.

Limitations of the Anthropological and Impact Studies

There are always natural limitations, measurement considerations, conceptual loopholes and the like which limit research. Some of the problems, constraints and issues that MET is cognizant of are listed below.

Internal and external validity are useful concepts as defined by Webb and others (8) in their book on Unobtrusive Measures. Webb notes that internal validity asks whether a difference exists at all in any given comparison or whether an apparent difference can be explained away as a measurement artifact. External validity is the problem of interpreting a difference and generalizing to other populations. Webb goes on to note a set of sources of invalidity which will be applied to the SEA setting.

- Awareness of Being Tested. The students, staff and parents of SEA are fully aware of the MET testing program among other things. In specialized cases this could result in a positive or negative "guinea pig" effect.

- Role Selection. Webb notes that people have many roles to play and may use the role they feel the experimenter will be most pleased with during observation or interview sessions. Such an artifact should be evident after five years' research in many settings.

- Measurement as a Change Agent. The actual process of measurement can serve as a change agent in certain circumstances. In the survey work of MET care on this issue is of considerable importance.

- Response Sets. It has been shown that subjects will more frequently endorse a statement than disagree with its opposite. When working with the early elementary school students of SEA, especially with the affective test, care must be taken to provide a neutral or accepting test environment. This means among other things replacing the teacher with a trained test administrator and assuring the students that teachers will not be apprised of their answers.

- Interviewer Effects. The religion and race of an interviewer may bias results obtained. Some of these biases can be controlled for, rotated out or lived through while others are quite subtle and need considerable study. Frequent triangulation of major themes may provide one way to deal with the ever present biases of face to face interviewing.

- Change in the Research Instrument. An interviewer may tire and change over time and an observer may be influenced by the environment and modify his observation strategy. Adequate training and frequent reliability checks can reduce the impact of this cause of invalidity.

- Population Restriction. Many methods automatically limit the universe to be studied or a method by universe interaction often exists. A telephone survey will only generalize to those who have phones and are home when the calls are made. A mail survey will only generalize to those who live at the address noted and take the time to complete and return the survey.

- Population Stability. As noted by Webb, a common failure in survey research where multiple measures are taken over time is to forget to take into account the mobility of the population. One solution would be to use only cohorts for discussion of longitudinal change.

Some other items specific to the SEA that might serve to invalidate the findings are as follows:

- The Outsider Effect. Evaluators are relegated to the role of outsider for their task is of no immediate benefit to those under study and they are not typically accountable to those they evaluate.

Depending on the ability of the outsider to keep good relations in a tradeoff situation where he has bubble gum cards while his subject has $100.00 bills, the outsider effect can be important.

- The Role and Level Effect. Ambiguity in the relationship and responsibilities of various levels in multilevel research can be undesirable. An important first step in multilevel research must be defining who's doing what to whom for what purpose and under whose authority.

- The Missing Base Line Trick. In many social systems records are not kept in a manner consistent enough to provide a researcher with ample baseline data on the system prior to the intervention. This is a major problem for MET to solve in SEA.

- "Au Natural" Research. Taking a setting as it is and attempting to understand and explain what takes place there is somewhat novel in the history of educational research. One way of dealing with this potential source of invalidity is to seek out sociologists and anthropologists who are quite comfortable with a design of this sort.

- The Complications that Stem from Choice. It would be hard to design a system of schooling that would make it any harder to attribute affects to some aspect of the program. During the first year of SEA 30% of the students attended other than their neighborhood school and these students had distinct characteristics that made them anything but a representable sample. Hence a major aspect of the program design, choice, places severe constraints on the evaluation design.

Campbell (1) also detailed a number of factors that affect internal and external validity. Five factors not previously discussed but of some importance in the SEA setting are noted below:

- History. Much happens between two measures of the same trait of class of traits other than the treatment designed to or expected to bring about a change. In fact factors of not being monitored may be substantially influencing.

- Maturation. One must be careful to account for the passage of time prior to concluding that some treatment had brought about a change.

- Testing. In the laboratory research the act of giving a test has been shown to have a significant effect on scores achieved during the second measurement period.

- Experimental Mortality. The mortality factor was previously discussed and it is also important to watch for an uneven mortality rate over treatment groups. (e.g., Do you lose students from school X more often than school Y and are the two groups of leaving students from the same or different populations?)

- Multiple Treatment Interference.

An item relevant to external validity is the situation where many treatments affect the same subjects. This is an important consideration but an over simplification, I'm afraid, of the truly complex treatment situation found in SEA.

The evaluation and documentation of SEA is a complex undertaking. The reader must realize that any one of the above could dramatically affect the results of MET observations. However, as often noted above, steps have been and will be taken to reduce the influence of these potentially troublesome factors.

In summary, an innovative project has been described as has the evaluation designed to measure its effects and document its evolution. One aspect of the evaluation utilizes an uncommon anthropological approach which is discussed in detail. The limitations of such a procedure are discussed in general terms.

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